



Docket No.: H0002769  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Hoki Kwon

Application No.: 10/078,474

Filed: February 21, 2002

For: GAAS/AL(GA)AS DISTRIBUTED BRAGG  
REFLECTOR ON INP

Customer No.: 000128

Confirmation No.: 48

Art Unit: 2828

Examiner: Dung T. Nguyen

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**INFORMATION DISCLOSURE STATEMENT (IDS)**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed more than three months after the U.S. filing date, OR more than three months after the date of entry of the national stage of a PCT application, AND after the mailing date of the first Office Action on the merits, whichever occurs first, but before the mailing date of a Final Office Action or Notice of Allowance (37 CFR 1.97(c)).

A copy of each non US patent references on the PTO/SB/08 is attached.

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing

of this Information Disclosure statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

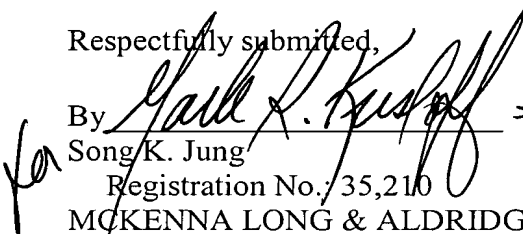
It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

Our check in the amount of \$180.00 covering the fee set forth in 37 CFR 1.17(p) is enclosed. The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 01-1125, under Order No. H0002769. A duplicate copy of this paper is enclosed.

Dated: February 6, 2004

Respectfully submitted,

By

 #42,766  
Song K. Jung

Registration No.: 35,210

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1900 K Street, N.W.

Washington, DC 20006

(202) 496-7500

Attorney for Applicant

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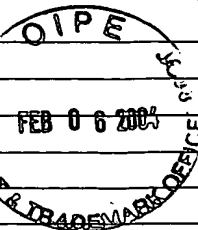
**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(USE AS MANY SHEETS AS NECESSARY)

Sheet	1	Of	8
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**COMPLETE IF KNOWN**

Application Number	10/078,474
Filing Date	2-21-02
First Named Inventor	Ho Ki Kwon
Art Unit	2828
Examiner Name	Dung T. Nguyen
Attorney Docket Number	H0002769

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No <sup>1</sup>	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
		US 4445218		04-24-1984	Coldren	
		US 4608697		08-26-1986	Coldren	
		US 4622672		11-11-1986	Coldren et al.	
		US 4829347		05-09-1989	Cheng et al.	
		US 4873696		10-10-1989	Coldren et al.	
		US 4896325		01-23-1990	Coldren	
		US 5045499		09-03-1991	Nishizawa et al.	
		US 5082799	A	01-21-1992	Holmstrom et al.	
		US 5245622	A	09-14-1993	Jewell et al.	
		US 5251225	A	10-05-1993	Eglash et al.	
		US 5293392	A	03-08-1994	Shieh et al.	
		US 5343487	A	08-30-1994	Scott et al.	
		US 5358880	A	10-25-1994	Lebby et al.	
		US 5365540	A	11-15-1994	Yamanaka	
		US 5392307	A	02-21-1995	Sugiyama et al.	
		US 5416044	A	05-16-1995	Chino et al.	
		US 5422901	A	06-06-1995	Lebby et al.	
		US 5468343	A	11-21-1995	Kitano	
		US 5491710	A	02-13-1996	Lo	
		US 5513204	A	04-30-1996	Jayaraman	
		US 5568504	A	10-22-1996	Kock et al.	
		US 5588995	A	12-31-1996	Sheldon	
		US 5631472	A	05-20-1997	Cunningham et al.	
		US 5693180	A	12-02-1997	Furukawa et al.	
		US 5719891	A	02-17-1998	Jewell	
		US 5719894	A	02-17-1998	Jewell et al.	

Examiner  
SignatureDate  
Considered

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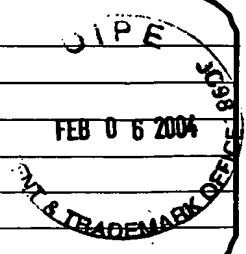
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Sheet	2	Of	8														
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		US 5719895	A	02-17-1998	Jewell et al.	
		US 5729567	A	03-17-1998	Nakagawa	
		US 5732103	A	03-24-1998	Ramdani et al.	
		US 5747366	A	05-05-1998	Brillouet et al.	
		US 5754578	A	05-19-1998	Jayaraman	
		US 5757833	A	05-26-1998	Arakawa et al.	
		US 5805624	A	09-08-1998	Yang et al.	
		US 5809051	A	09-15-1998	Oudar	
		US 5815524	A	09-29-1998	Ramdani et al.	
		US 5818862	A	10-06-1998	Salet	
		US 5818863	A	10-6-1998	Nabet et al.	
		US 5825796	A	10-20-1998	Jewell et al.	
		US 5835521	A	11-10-1998	Ramdani et al.	
		US 5877038	A	03-02-1999	Coldren et al.	
		US 5883912	A	03-16-1999	Ramdani et al.	
		US 5898722	A	04-27-1999	Ramdani et al.	
		US 5903586	A	05-11-1999	Ramdani et al.	
		US 5912913	A	06-15-1999	Kondow et al.	
		US 5943357	A	08-24-1999	Lebby et al.	
		US 5943359	A	08-24-1999	Ramdani et al.	
		US 5956363	A	09-21-1999	Lebby et al.	
		US 5960018	A	09-28-1999	Jewell et al.	
		US 5974073	A	10-26-1999	Canard et al.	
		US 5978398	A	11-02-1999	Ramdani et al.	
		US 5985683	A	11-16-1999	Jewell	
		US 5991326	A	11-23-1999	Yuen et al.	
		US 6021147	A	02-01-2000	Jiang et al.	
		US 6046065	A	04-04-2000	Goldstein et al.	
		US 6049556	A	04-11-2000	Sato	
		US 6052398	A	04-18-2000	Brillouet et al.	
		US 6057560	A	05-02-2000	Uchida	
		US 6061380	A	05-09-2000	Jiang et al.	

Examiner Signature		Date Considered	
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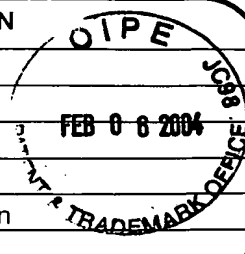
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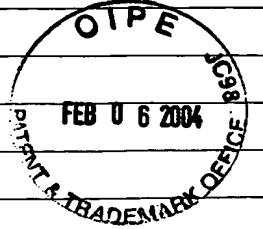


		US 6061381	A	05-09-2000	Adams et al.	
		US 6121068	A	09-19-2000	Ramdani et al.	
		US 6127200	A	10-03-2000	Ohiso et al.	
		US 6148016	A	11-14-2000	Hegblom et al.	
		US 6195485	B1	02-27-2001	Coldren et al.	
		US 6207973	B1	03-27-2001	Sato et al.	
		US 6226349	B2	04-25-2003	Cox et al.	
		US 6252896	B1	06-26-2001	Tan et al.	
		US 6314118	B1	11-06-2001	Jayaraman et al.	
		US 6341137	B1	01-22-2002	Jayaraman et al.	
		US 6359920	B1	03-19-2002	Jewell et al.	
		US 6362069	B1	03-26-2002	Forrest et al.	
		US 6366597	B1	04-02-2002	Yuen et al.	
		US 6372533	B2	04-16-2002	Jayaraman et al.	
		US 6424669	B1	07-23-2002	Jiang et al.	
		US 6434180	B1	08-13-2002	Cunningham	
		US 6542530	B1	04-01-2003	Shieh et al.	
		US 6546031	B1	04-08-2003	Jewell et al.	
		US 6566688	B1	04-20-2003	Zhang et al.	
		US 6556602	B2	04-29-2003	Rice et al.	
		US 6580741	B2	06-17-2003	Jiang et al.	
		US 6603784	B1	08-05-2003	Johnson	
		US 6621842	B1	09-16-2003	Dapkus	
		US 6621843	B2	09-16-2003	Yoo et al.	
		US 6628685	B1	09-30-2003	Chan-Long Shieh	
		US 6642070	B2	11-14-2003	Jiang et al.	
		US 6653158	B2	11-25-2003	Hall et al.	
		US 2002/ 0067748	A1	06-06-2002	Coldren et al.	
		US 2002/ 0071464	A1	06-13-2002	Coldren et al.	
		US 2002/ 0075920	A1	06-20-2002	Spruytte et al.	
		US 2002/ 0071471	A1	06-13-2002	Kim et al.	
		US 2002/ 0075929	A1	06-20-2002	Cunningham	
		US 2002/ 0090016	A1	07-11-2002	Coldren et al.	
		US 2002/ 0131462	A1	09-19-2002	Line et al.	
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		US 2003/ 0053510	A1	03-20-2003	Yuen et al.	
		US 2003/ 0103543	A1	06-05-2003	Moser et al.	
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		US 2003/0123511	A1	07-03-2003	Johnson	
		US 2003/0134448	A1	07-17-2003	Ju et al.	
		US 2003/0156610	A1	08-21-2003	Kwon	
		US 2003/0156611	A1	2-21-2003	Kwon	
		US 2003/0156616	A1	08-21-2003	Kwon	
		US 2003/0157739	A1	08-21-2003	Jiang et al.	
		US 2003/0231680	A1	12-18-2003	Dariusz Burak	

Examiner Signature		Date Considered	
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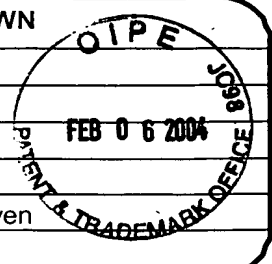
**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(USE AS MANY SHEETS AS NECESSARY)

Sheet 4 Of 8

**COMPLETE IF KNOWN**

Application Number	10/078,474
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**FOREIGN PATENT DOCUMENTS**

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		Country Code <sup>2</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
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		✓ EP	0 765 014	B1	07-28-1999	France Telecom		
		✓ EP	0 822 630	A1	02-04-1998	Hewlett-Packard Company		
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		✓ EP	1 294 063	A1	03-19-2003	Avalon Photonics AG		
		✓ JP	57026492	A	02-12-1982	NEC Corp.		
		✓ WO	98/007218	A1	02-19-1998	W.L. Gore & Associates, Inc.		
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		<b>Group Art Unit</b>	2828
		<b>Examiner Name</b>	Dung T. Nguyen
		<b>Attorney Docket Number</b>	H0002769

Sheet 5 Of 8

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OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T <sup>2</sup>
	<input checked="" type="checkbox"/>	International Search Report, dated 08-09-2003, relative to PCT application No. PCT/US 03/05368, the foreign equivalent to the instant U.S. application 10/078,474	
	<input checked="" type="checkbox"/>	AKIYAMA, Y., et al., "Growth of High Quality GaAs Layers on Si Substrates by MOCVD". 1986, Journal of Crystal Growth, pp. 490-497.	
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Examiner Signature	Date Considered
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<b>Substitute for form 1449B-PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (USE AS MANY SHEETS AS NECESSARY)  Sheet <u>6</u> Of <u>8</u>	<b>COMPLETE IF KNOWN</b>	
	<b>Application Number</b>	10/078,474
	<b>Filing Date</b>	2-21-02
	<b>First Named Inventor</b>	Ho Ki Kwon <b>FEB 06 2004</b>
	<b>Group Art Unit</b>	2828
	<b>Examiner Name</b>	Dung T. Nguyen
	<b>Attorney Docket Number</b>	H0002769

<input checked="" type="checkbox"/>	BLACK, K., et al. "Double-fused 1.5 $\mu$ m vertical cavity lasers with record high $T_0$ of 132K at room temperature", article, Oct 1, 1998, pgs 1947-9, Vol. 34, No. 20, Electronics Letters.	
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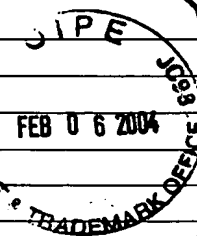
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Sheet	72	Of	8
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**COMPLETE IF KNOWN**

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First Named Inventor	Ho Ki Kwon
Group Art Unit	2828
Examiner Name	Dung T. Nguyen
Attorney Docket Number	H0002769



<input checked="" type="checkbox"/>	HONG, Y., et al., "Growth of GaInNAs quaternaries using a digital alloy technique", conference paper, Oct 01/3, 2001, pgs 1163-6, Journal of Vacuum Science and Technology B: Microelectronics and Nanometer Structures.	
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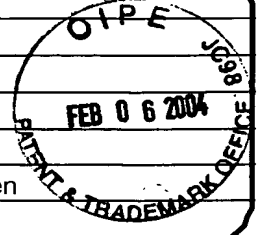
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Sheet 8 Of 8

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	<input checked="" type="checkbox"/>	PETERS, M., et al., "Realization and modeling of a pseudomorphic (GaAs <sub>1-x</sub> Sb <sub>x</sub> In <sub>y</sub> Ga <sub>1-y</sub> As)/GaAs bilayer-quantum well", article, Oct 30, 1995, pgs 2639-41, Applied Physics Letter 67 (18).	
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